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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,815	12/14/2004	Lars Dokkedahl	742111-163	8609
25570	7590	09/06/2006		
ROBERTS, MLOTKOWSKI & HOBBS P. O. BOX 10064 MCLEAN, VA 22102-8064				
EXAMINER EDMONDSON, LYNNE RENEE				
ART UNIT			PAPER NUMBER	
1725				

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/517,815

Applicant(s)

DOKKEDAHL, LARS

Examiner

Lynne Edmondson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ___ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-23 is/are rejected.
- 7) ☒ Claim(s) 5-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/18/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the vessel" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 10, 11 and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Leicht (USPN 5181648).

Leicht teaches a soldering method and apparatus comprising a soldering zone for vapor phase soldering including gates (locks), means for supplying forced condensing of vapor and means for supplying gas. The reference also teaches an apparatus comprising means for condensation, pumping means, a heat exchanger for cooling the vapor, which is moved through an inlet and outlet wherein the heat

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exchanger can operate at different temperatures. The method teaches soldering by heating at a high temperature with a condensing vapor, cooling (lower temperature) in the presence of protective gas, shutting off the vapor and condensing it (figure, col 3 line 21 – col 4 line 31, col 4 line 60 – col 5 line 50 and claims 1, 20 and 22).

5. Claims 1, 2, 10, 11 and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Mishina et al. (USPN 5156325, IDS).

Mishina teaches a soldering method and apparatus comprising a soldering zone for vapor phase soldering including gates, means for supplying forced condensing of vapor, means for supplying gas and filters for the condensed vapor. The reference also teaches an apparatus comprising means for condensation, pumping means, a heat exchanger for cooling the vapor, which is moved through an inlet and outlet wherein the heat exchanger can operate at different temperatures. The method teaches soldering by heating at a high temperature with a condensing vapor, cooling (lower temperature) in the presence of protective gas, shutting off the vapor and condensing it (figure 3, col 3 line 13 – col 4 line 7).

6. Claims 1-4, 10, 11 and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Rahn (USPN 4838476).

Rahn teaches a soldering method and apparatus comprising a soldering zone for vapor phase soldering including gates (doors), means for supplying forced condensing of vapor, means for supplying gas, suction means to facilitate exhaust and filters for the

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condensed vapor. The method teaches soldering by heating at a high temperature with a condensing vapor, cooling (lower temperature) in the presence of protective gas, shutting off the vapor and condensing it (col 6 line 6 – col 8 line 8 and col 10 lines 1-37). The reference also teaches an apparatus comprising means for condensation, pumping means, a heat exchanger for cooling the vapor, which is moved through an inlet and outlet wherein the heat exchanger can operate at different temperatures (col 7 lines 22-67).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 12-17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rahn (USPN 4838476) in view of Master et al. (USPN 6382500 B1, IDS).

Rahn teaches a soldering method and apparatus comprising a soldering zone for vapor phase soldering including gates (doors), means for supplying forced condensing of vapor, means for supplying gas, suction means to facilitate exhaust and filters for the condensed vapor. The method teaches soldering by heating at a high temperature with a condensing vapor, cooling (lower temperature) in the presence of protective gas, shutting off the vapor and condensing it (col 6 line 6 – col 8 line 8 and col 10 lines 1-37).

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The reference also teaches an apparatus comprising means for condensation, pumping means, a heat exchanger for cooling the vapor, which is moved through an inlet and outlet wherein the heat exchanger can operate at different temperatures (col 7 lines 22-67). However there is no disclosure of a trap or fins on the heat exchanger.

Master teaches an apparatus comprising a heat exchanger with fins for cooling the vapor, which is moved through an inlet and outlet wherein the heat exchanger can operate at different temperatures and a trap (col 4 line 33 – col 5 line 20

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a trap as part of the flux condensation filtration and recirculation system as is conventional to facilitate condensate collection and to use a heat exchanger with fins as this is a common configuration and would facilitate more efficient cooling.

Allowable Subject Matter

9. Claims 5-9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art teaches the invention essentially as claimed but does not teach an actuated, perforated cover for the vapor vessel.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shirai et al. (USPN 4628616, suction exhaust), Kantor (USPN 4367639, condensing apparatus, trap, temp control and heat exchanger with fins).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lynne Edmondson

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Primary Examiner
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WCB
9/1/00

LRE